

Remarks

This is in response to the Office Action mailed on January 10, 2003. The title and specification have been amended. Claims 1-5 have also been editorially amended and remain pending. No new matter has been added. Reconsideration and allowance of all claims are respectfully requested.

I. Objections to Title and Specification

In section 1 of the Office Action, the title was objected to for failing to be descriptive. The title has been amended to more clearly identify the subject matter disclosed in the application. Reconsideration is respectfully requested.

In section 2, the specification was objected to for failing to include section headings. The specification has been amended to add section headings. In addition, the specification has been editorially amended to correct several minor errors made during translation of the application. No new matter has been added. Reconsideration is respectfully requested.

II. Claims Rejections under 35 U.S.C. § 112, Second Paragraph

In section 3 of the Office Action, claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is respectfully traversed, to the extent it is maintained.

Claims 1-5 have been amended to address the noted informalities. Claims 1-5 have also been amended in other respects, none of which are meant to limit the claims in any manner. Reconsideration and allowance are respectfully requested.

III. Drawing Objections

In section 4 of the Office Action, the drawings were objected to under 37 CFR 1.83(a) as failing to show every feature of the invention specified in the claims. Specifically, the rejection states that the conical conformation recited in claim 4 is not shown. This rejection is respectfully traversed.

Figure 1 is described at page 4, lines 9-12 of the present application as an axial section of a preferred embodiment of the sealing device. An example lip 17 of conical conformation is illustrated in the axial section of Figure 1. It is respectfully suggested that an axial section of the

lip recited by claim 4 is shown sufficiently in Figure 1 to satisfy the requirements of 37 CFR 1.83(a). Reconsideration and removal of the objection are respectfully requested.

IV. Claim Rejections under 35 U.S.C. § 112, First Paragraph

In section 5 of the Office Action, claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph, as containing subject matter which was not described in the specification.

Specifically, the rejection states that the structure of the shield, housing, detector, and window are vague and not understood. The rejection also states that it is vague as to how the window cooperates with the lip, how the detector is mounted in the window, and how the lip is connected to the inner race. This rejection is respectfully traversed.

With regard to the structure of the shield, housing, and detector, it is respectfully suggested that such structures are well known to one skilled in the art. For example, all of these structures are described throughout the specification and illustrated in Figure 1 of the application. In addition, Merklein et al., U.S. Patent No. 5,969,518, which was described at page 1, line 14 - page 2, line 10 of the application and cited in the rejection, discloses a sealing device including a shield, housing, and detector. With regard to the structure of the window, the window is illustrated, for example, as window 15 of the example shown in Figure 1 of the application. The term "window" can be defined as "an opening." Webster's Ninth New Collegiate Dictionary, p. 1351 (1985). It is respectfully suggested that one skilled in the art would understand the term window as described in the application to be an opening through the shield that allows a detection surface 9s of the sensor 9 to directly face an encoder wheel 8. See page 6, lines 1-8.

With regard to how the window cooperates with the lip, how the detector is mounted in the window, and how the lip is connected to the inner race, it is respectfully suggested that the interrelationship between these structures are sufficiently described in the specification to allow one skilled in the art to make and use the claimed invention. For example, page 6, lines 9-19 of the application describes how the window 15 is delimited by a support wall 16 which functions to support the sensor 9. Also described is one example of how the support wall 16 can include a conical sealing lip 17 that is arranged to contact a lateral surface 9l of the sensor. Id.

In view of the above remarks, the subject matter of claims 1-5 are sufficiently described in the specification to allow one skilled in the art to make and use the claimed invention. Reconsideration and allowance are respectfully requested.

V. Claims Rejections under 35 U.S.C. § 102

In section 6 of the Office Action, claims 1-5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Merklein et al., U.S. Patent No. 5,969,518. This rejection is respectfully traversed.

Claim 1 is directed to a sealing device with a sensor for a rolling bearing. Claim 1 recites that the sealing device includes a detecting sensor arranged in a housing, wherein the sensor includes a detection surface that directly faces an encoder wheel.

One embodiment of the configuration recited by claim 1 is illustrated by Figure 1 of the application, in which a sensor 9 is positioned in a housing 10 and a detection surface 9s of the sensor directly faces an encoder wheel 8. Such a configuration is advantageous because it allows the sensor 9 to be shielded from polluting agents by the housing 10, while minimizing disturbance of the sensor as the sensor senses the encoder wheel.

Merklein is described at page 1, lines 14-21 of the present application. Merklein discloses a sealing device including a shield 4 mounted between an encoder wheel 3 and a sensor 6. The sensor 6 disclosed in Merklein is positioned outside of the sealing device. See, e.g., Figure 1 of Merklein. The configuration of the sealing device disclosed in Merklein can be disadvantageous because the sensor 6 is exposed to various polluting agents and the shield 4 positioned between the sensor 6 and the encoder wheel 3 can distort the sensor readings. See page 1, line 22 - page 2, line 10 of the application.

Merklein fails to disclose or suggest a sensor including a detection surface that directly faces an encoder wheel, as recited by claim 1. In Merklein, the sensor 6 directly faces the shield 4, not the encoder wheel 3. Further, Merklein fails to suggest a detecting sensor arranged in a housing, as recited by claim 1. In Merklein, the sensor 6 is positioned outside the sealing device.

For at least these reasons, Merklein fails to anticipate claim 1, as well as claims 2-5 that depend therefrom. Reconsideration and allowance are respectfully requested.


VI. Conclusion

In view of the above amendments and remarks, all claims should now be in condition for allowance. Favorable reconsideration is respectfully requested. The Examiner is encouraged to contact the undersigned Attorney with any questions regarding this application.

Respectfully submitted,
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